

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application:

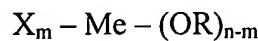
Listing of Claims:

Please amend the claims as shown:

1.-20. (Cancelled)

21. (New) A process for the preparation and the deposition of a vitreous film on a substrate comprising:

preparing a solution in an aprotic solvent of at least one alkoxide corresponding to the formula

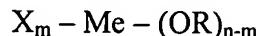


where Me is a metal selected from the group consisting of Group 3°, 4° and 5° of the Periodic Table of Elements; m is the valence of Me; X is R₁ or OR₁, R₁ is the same as or different from R, m is either zero or integer number equal to or lower than 3; R and R₁ are hydrocarbon radicals with a number of carbon atoms equal to or lower than 12;

- hydrolyzing the solution in the presence of a catalyst in a hydrolysis reaction to obtain a hydrolysis reaction product;
- optionally removing alcohol formed during the hydrolysis reaction and forming a sol;
- depositing the hydrolysis reaction product on the substrate;
- optionally drying and stabilizing of the vitreous film.

22. (New) A process for the preparation of a sol for deposition onto a substrate to form a vitreous film on said substrate comprising:

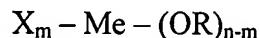
preparing a solution in an aprotic solvent of at least one alkoxide corresponding to the formula



where Me is a metal selected from the group consisting of Group 3°, 4° and 5° of the Periodic Table of Elements; m is the valence of Me; X is R₁ or OR₁, R₁ is the same as or different from R, m is either zero or integer number equal to or lower than 3; R and R₁ are hydrocarbon radicals with a number of carbon atoms equal to or lower than 12;

- hydrolyzing the solution in the presence of a catalyst in a hydrolysis reaction to obtain a hydrolysis reaction product;
- removing alcohol formed during the hydrolysis reaction and forming a sol.

23. (New) A stable colloidal solution obtained by hydrolyzing a solution in aprotic solvent of at least one alkoxide corresponding to the formula:



where Me is a metal selected from the group consisting of Group 3°, 4° and 5° of the Periodic Table of Elements; m is the valence of Me; X is R₁ or OR₁, R₁ is the same as or different from R, m is either zero or integer number equal to or lower than 3; R and R₁ are hydrocarbon radicals with a number of carbon atoms equal to or lower than 12.

24. (New) The process for the preparation and deposition of a vitreous film onto a substrate according to Claim 21 wherein the alkoxide is selected from the group consisting of tetramethyl-orthosilane, tetraethylorthosilicate, tetrapropylorthosilicate, tetrabutylorthosilicate, ethyltriethoxysilane, methyltrimethoxysilane, methyltriethoxysilane, and mixture thereof.

25. (New) The process for the preparation and deposition of a vitreous film onto a substrate according to Claim 21 where the aprotic solvent is acetone, tetrahydrofuran or dioxane.

26. (New) The process for the preparation and deposition of a vitreous film onto a substrate according to Claim 21 where the solution of the alkoxide or mixture of alkoxides in the aprotic solvent is from 30% to 60% by weight.

27. (New) The process for the preparation and deposition of a vitreous film onto a substrate according to Claim 21 wherein hydrolyzing of the alkoxide is accomplished by adding a controlled quantity of water.

28. (New) The process for the preparation and deposition of a vitreous film onto a substrate according to Claim 27 wherein water is added in such a quantity as to maintain the molar ratio H₂O/Me from 0.5 to 5.

29. (New) The process for the preparation and deposition of a vitreous film onto a substrate according to Claim 28 where the ratio H₂O/Me is from 1.5 to 4.

30. (New) The process for the preparation and deposition of a vitreous film onto a substrate according to Claim 29 where the ratio H₂O/Me is from 2 to 3.

31. (New) The process for the preparation and deposition of a vitreous film onto a substrate according to Claim 21 where hydrolyzing of the alkoxide is accomplished in presence of an acid catalyst selected from the group consisting of mineral and organic acids with Ka of 0.1 to 3.

32. (New) The process for the preparation and deposition of a vitreous film onto a substrate according to Claim 31 where the reaction of hydrolyzing is in presence of an aqueous solution of HCl.

33. (New) The process for the preparation and deposition of a vitreous film onto a substrate according to Claim 31 where the reaction of hydrolyzing is in presence of a quantity of acid such that a molar ratio alkoxide/acid is from 1/0.001 to 1/1.

34. (New) The process for the preparation and deposition of a vitreous film onto a substrate according to Claim 33 where the molar ratio of alkoxide to acid is preferably from 1/0.1 to 1/0.01.

35. (New) The process for the preparation and deposition of a vitreous film onto a substrate according to Claim 21 further comprising where hydrolyzing of the alkoxide solution in aprotic solvent is followed by the removal of alcohol byproduct.

36. (New) The process for the preparation and deposition of a vitreous film onto a substrate according to Claim 21 where the removal of the alcohol is made by subjecting the sol to partial and controlled desolvantization.

37. (New) A stable colloidal solution according to made by the process according to Claim 24.

38. (New) The process for the preparation and deposition of a vitreous film onto a substrate according to Claim 21 further comprising depositing on substrate by knife coating, deep coating or spin-coating.

39. (New) The process for the preparation and deposition of a vitreous film onto a substrate according to Claim 21 further comprising depositing on substrate by spin-coating.

40. (New) The process for the preparation and deposition of a vitreous film onto a substrate according to Claim 21 where final drying is at a temperature of 20 to 500°C.

41. (New) A vitreous film obtained according to Claim 21.